



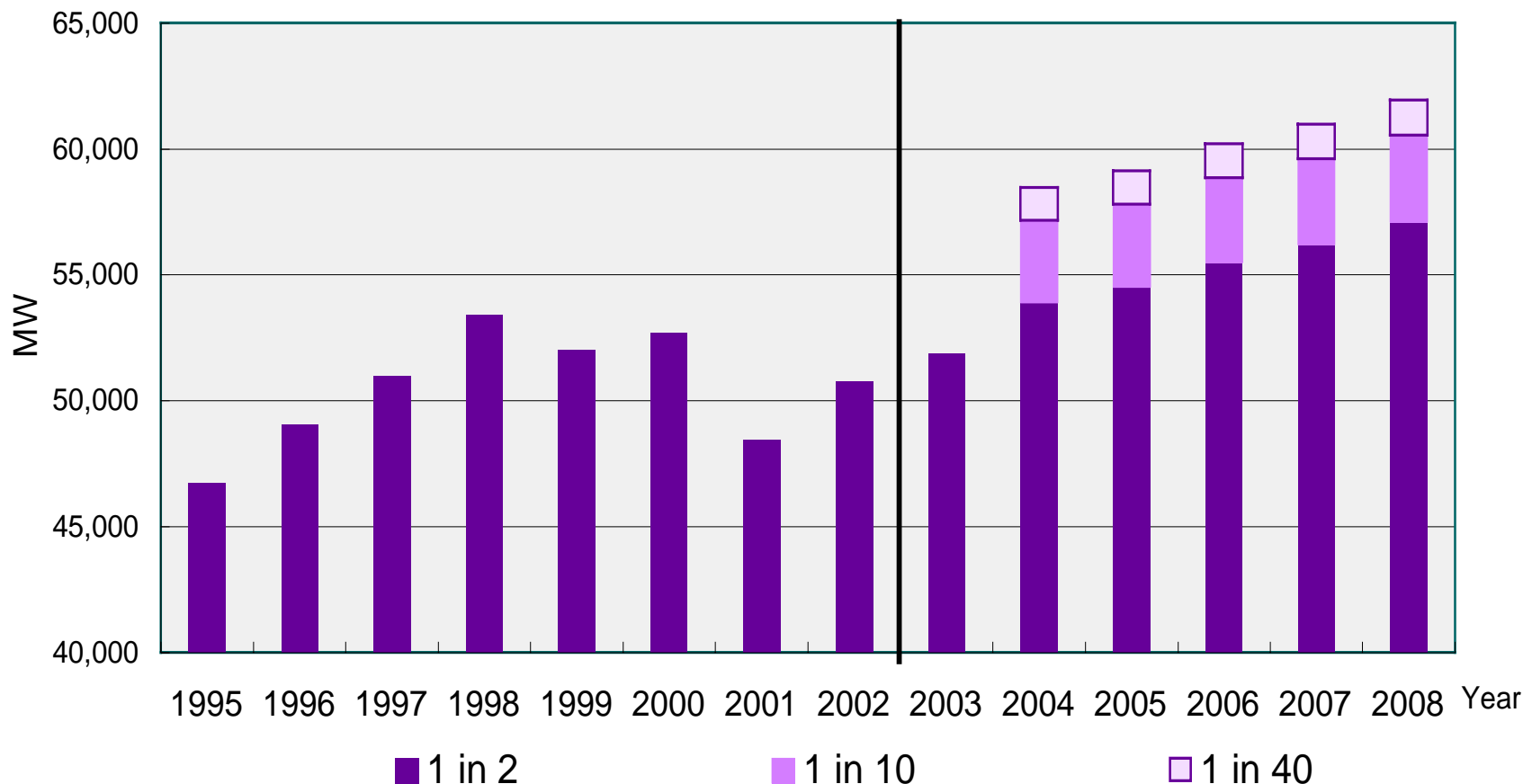
California's Electricity Demand and Supply Outlook

Updated July 8, 2004



Electricity Demand Trends

Statewide Coincident Peak Demand (MW)





California Statewide Electricity Supply/Demand Outlook

Summer 2004

Line		June	July	August	September	October
1	CEC 2004 Baseline Demand Forecast (1-in-2 Weather) ¹	48,554	53,896	53,896	53,896	43,720
2	1-in-10 Weather Adjustment ¹	3,019	3,351	3,351	3,351	1,577
3	1-in-2 Operating Reserve	3,042	3,416	3,416	3,416	2,786
4	1-in-10 Reserve Adjustment ¹	211	235	235	235	110
5	California Statewide Peak Demand + Operating Reserve (1 in 10)	54,826	60,898	60,898	60,898	48,193
6	ISO Control Area Merchant Thermal	23,922	23,912	23,898	23,892	23,973
7	ISO Municipal Utility Thermal Resources	1,021	1,021	1,021	1,021	1,022
8	ISO Control Area Hydro (derated)	8,783	8,782	8,779	8,854	8,115
9	IOU Retained Generation	5,291	5,291	5,291	5,291	5,291
10	Net Imports ISO Control Area	5,095	5,095	5,095	5,095	3,920
11	QF Capacity (dependable)	5,623	5,597	5,573	5,535	5,754
12	LADWP Control Area Resources (hydro derated)	7,803	7,803	7,803	7,803	7,734
13	Imperial Irrigation District + Other Non ISO Municipals	1,487	1,504	1,504	1,504	1,484
14	SMUD Control Area Resources (hydro derated)	1,811	1,811	1,811	1,711	1,409
15	Dependable Capacity	60,835	60,815	60,774	60,705	58,702
16	Estimated Nuclear Refueling Outage	-	-	-	-	(1,102)
17	Economic Outages	-	-	-	-	(3,000)
18	Generation Retirements ³	(601)	(601)	(601)	(601)	(601)
19	Estimated Forced and Planned Outages	(3,750)	(3,750)	(3,750)	(3,750)	(6,140)
20	Estimated Forced & Scheduled Outages	(4,351)	(4,351)	(4,351)	(4,351)	(10,843)
21	Available Capacity	56,484	56,464	56,423	56,354	47,859
22	Resource Surplus/Deficit Before Additions⁴	1,658	(4,434)	(4,475)	(4,544)	(334)
23	Generation Additions (dependable) @ 75% Probability ²	664	664	984	984	1,304
24	Sempra DWR Contract Obligation ⁵	800	800	800	800	800
25	Total Available Capacity	57,948	57,928	58,207	58,138	49,963
26	Resource Surplus/Deficit Before Spot Market⁶	3,122	(2,970)	(2,691)	(2,760)	1,770
27	Expected Spot Market Imports ⁷	1,950	1,950	1,950	1,950	1,950
28	Resource Surplus/Deficit With Spot Market Imports	5,072	(1,020)	(741)	(810)	3,720
29	Estimated Operating Reserve (1-in-2 Weather)	26%	12.3%	12.8%	12.7%	21%
30	Estimated Operating Reserve (1-in-2 Weather) w/o Spot Market Imports	22%	8.3%	8.8%	8.7%	16%
31	High Temperature Operating Reserve	18%	5.0%	5.6%	5.4%	16%
32	High Temperature Operating Reserve (1-in-10 Weather) w/o Spot Market Imports	14%	1.3%	1.8%	1.7%	11%
33	Emergency Response Programs					
34	Expected Interruptible/Emergency Programs ⁸	1,112	1,112	1,112	1,112	1,112
35	Expected Price Response	453	453	453	453	453
36	Expected Voluntary Response	321	321	321	321	321
37	Emergency Response Program Total	1,885	1,885	1,885	1,885	1,885

¹ July-Sept are constant because peak could occur in any month; October is a 1-in-5 scenario.

² Of the 1,167 MW generation mothballed in Nov 2003, 320 MW comes back online 15 July 2004; and an additional 320 MW comes back online 15 Sept 2004.

³ Generation is removed from assessment to account for 2004 retirements.

⁴ Resource surplus above what is required for Operating Reserves. This is calculated by subtracting line 5 from line 21

⁵ This line represents generation built under contract in Mexico. Has been derated to account for transmission limitations.

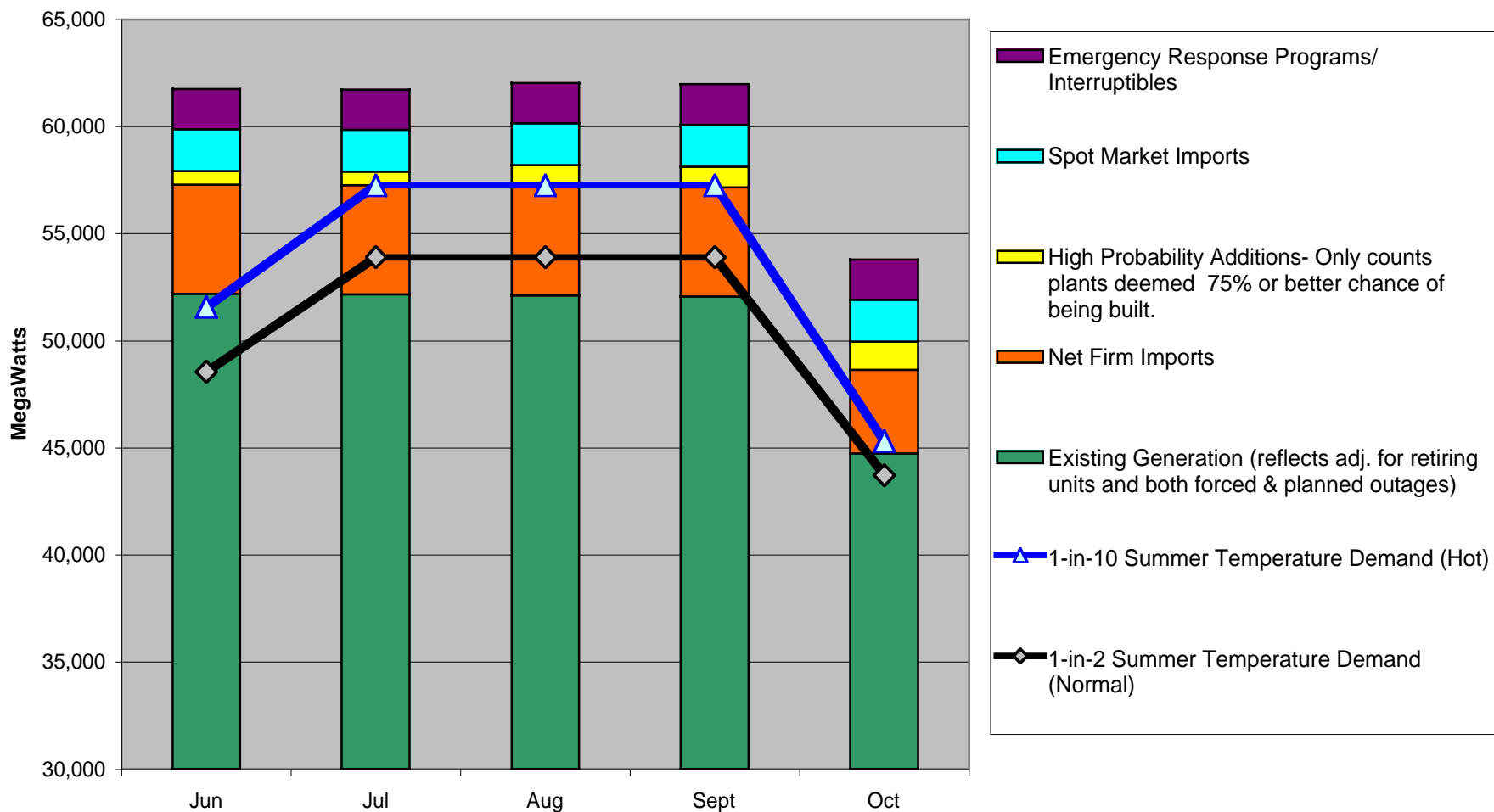
⁶ Resource surplus beyond what is needed for Operating Reserves. It is calculated by subtracting line 5 from sum of lines 25

⁷ Spot market estimate is conservative: assumes dry hydro year and it is based on historical observations.

⁸ Subscribed load reduction discounted to reflect expected load reduction.



California Statewide Electricity Supply/Demand Outlook Summer 2004





California ISO Control Area Electricity Supply/Demand Outlook

Summer 2004

Line		June	July	August	September	October
1	CEC 2004 Baseline Demand Forecast (1-in-2 Weather) ¹	39,783	44,160	44,160	44,160	35,822
2	1-in-10 Weather Adjustment ¹	2,470	2,742	2,742	2,742	1,258
3	1-in-2 Operating Reserve	2,428	2,735	2,735	2,735	2,233
4	1-in-10 Reserve Adjustment ¹	173	192	192	192	88
5	California ISO Control Area Demand + Operating Reserve	44,854	49,828	49,828	49,828	39,401
6	ISO Control Area Merchant Thermal ²	23,922	23,912	23,898	23,892	23,973
7	ISO Municipal Utility Thermal Resources	1,021	1,021	1,021	1,021	1,022
8	ISO Control Area Hydro (derated)	8,783	8,782	8,779	8,854	8,115
9	IOU Retained Generation	5,291	5,291	5,291	5,291	5,291
10	Net Imports ISO Control Area	5,095	5,095	5,095	5,095	3,920
11	QF Capacity (dependable)	5,623	5,597	5,573	5,535	5,754
12	Dependable Capacity	49,735	49,697	49,657	49,688	48,075
13	Estimated Nuclear Refueling Outage	-	-	-	-	(1,102)
14	Economic Outages	-	-	-	-	(3,000)
15	Generation Retirements	-	-	-	-	-
16	Estimated Forced and Planned Outages	(3,250)	(3,250)	(3,250)	(3,250)	(5,640)
17	Estimated Forced & Scheduled Outages	(3,250)	(3,250)	(3,250)	(3,250)	(9,742)
18	Available Capacity	46,485	46,447	46,407	46,438	38,333
19	Resource Surplus/Deficit Before Additions³	1,631	(3,381)	(3,422)	(3,391)	(1,068)
20	Generation Additions (dependable) @ 75% Probability ²	140	140	464	464	784
21	Sempra DWR Contract Obligation ⁴	800	800	800	800	800
22	Total Available Capacity	47,425	47,387	47,671	47,702	39,917
23	Resource Surplus/Deficit Before Spot Market⁵	2,571	(2,441)	(2,158)	(2,127)	516
24	Expected Spot Market Imports ⁶	1,450	1,450	1,450	1,450	1,450
25	Resource Surplus/Deficit With Spot Market Imports⁷	4,021	(991)	(708)	(677)	1,966
26	Estimated Operating Reserve (1-in-2 Weather)	26%	12.0%	12.7%	12.8%	17%
27	Estimated Operating Reserve (1-in-2 Weather) w/o Spot Market Imports	22%	8.3%	9.0%	9.1%	13%
28	High Temperature Operating Reserve	18%	4.6%	5.3%	5.4%	13%
29	High Temperature Operating Reserve (1-in-10 Weather) w/o Spot Market Imports	14%	1.2%	1.8%	1.9%	9%
30	Emergency Response Programs					
31	Expected Interruptible/Emergency Programs ⁸	1,112	1,112	1,112	1,112	1,112
32	Expected Price Response	453	453	453	453	453
33	Expected Voluntary Response	321	321	321	321	321
34	Emergency Response Program Total	1,885	1,885	1,885	1,885	1,885

¹ July-Sept are constant because peak could occur in any month; October is a 1-in-5 scenario.

² Of the 1,167 MW generation was mothballed (removed) in Nov 2003, 320 MW comes back online 15 July 2004; and additional 320 MW comes back online 15 Sept 2004.

³ Resource surplus above what is required for Operating Reserves. It is calculated by subtracting line 5 from line 18

⁴ This line represents generation built under contract in Mexico. Has been derated to account for transmission limitations.

⁵ Resource surplus above what is required for Operating Reserves. It is calculated by subtracting line 5 from line 22

⁶ Spot market estimate is conservative. It assumes dry hydro year conditions and is based on historical observations.

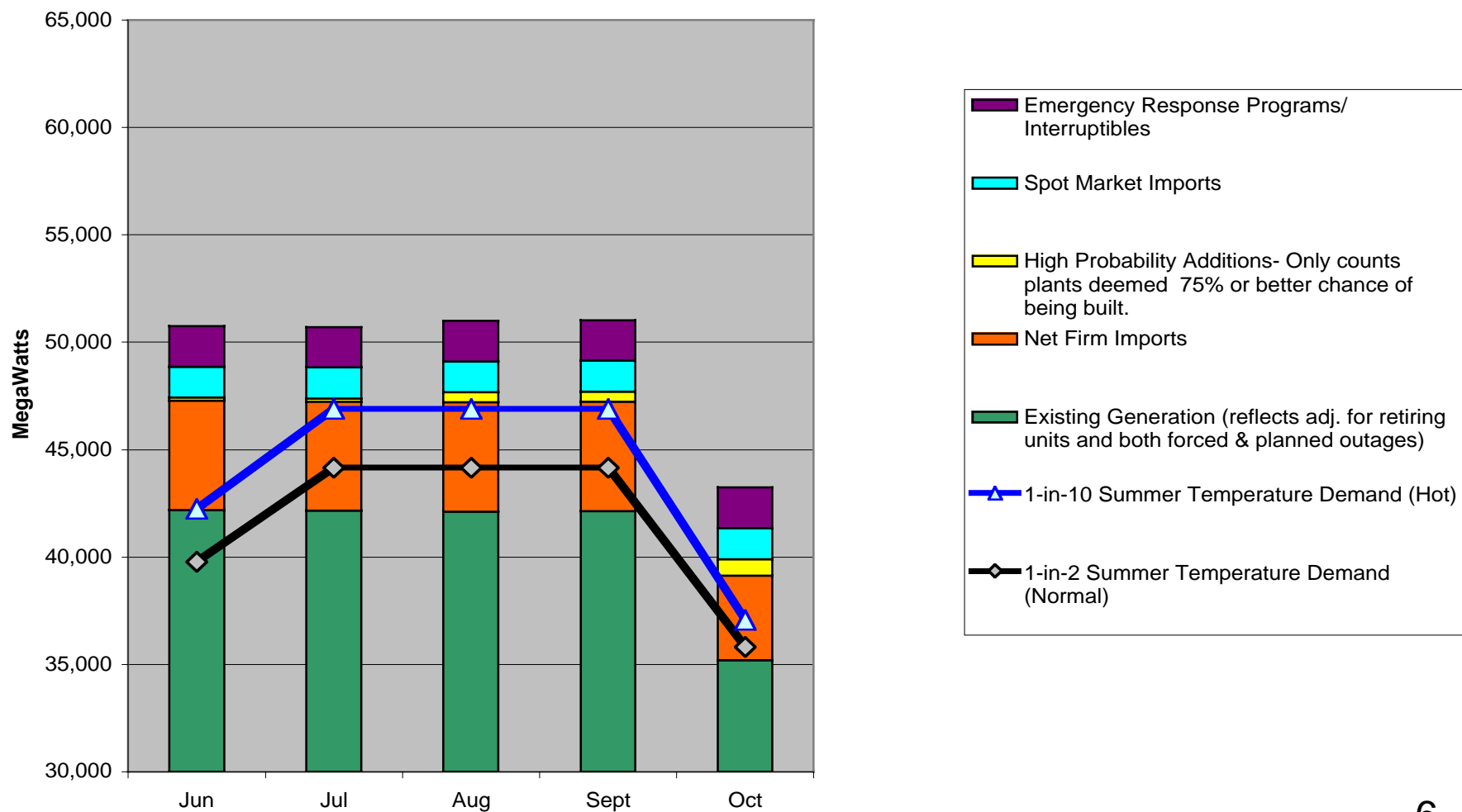
⁷ Resource surplus above what is required for Operating Reserves. It is calculated by subtracting line 5 from sum of lines 22 & 24.

⁸ Subscribed load reduction discounted to reflect expected load reduction.



California ISO Control Area Electricity Supply/Demand Outlook

Summer 2004





California Supply/Demand Balance

Line		Aug 2004	Aug 2005	Aug 2006	Aug 2007	Aug 2008	Aug 2009	Aug 2010
1	Existing Generation	56,479	56,862	57,814	58,530	58,896	59,605	59,810
2	Forced and Planned Outages ¹	-3,750	-3,750	-3,750	-3,750	-3,750	-3,750	-3,750
3	Retirements ²	-601	-1,091	-2,385	0	0	0	0
4	Net Firm Imports ^{1,3}	5,095	4,948	5,048	4,848	4,848	4,315	4,209
5	High Probability CA Additions	984	2,043	3,101	366	709	205	198
6	Spot Market Imports	1,950	2,700	2,700	2,700	2,700	2,700	2,700
7	Total Supply (MW)	60,157	61,712	62,528	62,694	63,403	63,075	63,167
8	1-in-2 Summer Temperature Demand (Normal)	53,896	54,500	55,487	56,195	57,090	57,757	58,491
9	Projected Operating Reserve (1-in-2) ⁴	12.8%	14.6%	14.0%	12.7%	12.1%	10.0%	8.6%
10	Proj. Op. Reserve (1-in-2) w/ Accelerated Programs ⁵	13.3%	16.9%	17.9%	18.4%	18.7%	17.3%	16.5%
11	1-in-10 Summer Temperature Demand (Hot)	57,247	57,811	58,858	59,609	60,559	61,266	62,044
12	Projected Operating Reserve (1-in-10) ⁴	5.6%	7.4%	6.8%	5.6%	5.1%	3.2%	1.9%
13	Proj. Op. Reserve (1-in-10) w/ Accelerated Programs ⁵	6.3%	9.2%	10.1%	10.5%	10.7%	9.4%	8.7%
14	<p>Notes: ¹ Forced and Planned Outages and Net Firm Imports are estimated based on historic data. ² In 2005 and 2006 there are respectively 750 MW and 1250 MW of generic retirements to reflect capacity deemed to be at risk for retirement. In addition, CEC recognizes that South Bay Units 1-4 will retire prior to the summer of 2009. However, since these units are needed for reliability, we assume these plants' capacity will be replaced without interruption. ³ No new Net Firm Imports are assumed, so contract expirations reduce Net Firm Imports over time with exception of 2006 when 100 MW export contract expires. This causes Net Firm Imports to increase by 100 MW in 2006. ⁴ These reserves do not consider potential capacity additions derived from price responsive demand programs adopted by the CPUC, incremental new renewables from Energy Action Plan or High DSM Peak Demand Reduction Scenario. ⁵ Includes potential capacity additions from Energy Action Plan or High DSM Peak Demand Reduction Scenario. ⁶ Of the 1,167 MW generation was mothballed (removed) in Nov 2003, Etiwanda 4 (320 MW) comes back online 15 July 2004; and Etiwanda 3 (320 MW) comes back online 15 Sept 2004. ⁷ Emergency Response and Interruptibles programs are not included in operating reserve calculations.</p>							
15	Capacity from Plants on Cold Reserve Status ⁶	847	527	527	527	527	527	527
16	Emergency Response Programs/Interruptibles ⁷	1,885	1,885	1,885	1,885	1,885	1,885	1,885



Planning Reserve Calculation

	<u>Aug 2004</u>	<u>Aug 2005</u>	<u>Aug 2006</u>	<u>Aug 2007</u>	<u>Aug 2008</u>	<u>Aug 2009</u>	<u>Aug 2010</u>
Existing Generation	56,479	56,862	57,814	58,530	58,896	59,605	59,810
Retirements ¹	-601	-1,091	-2,385	0	0	0	0
Net Firm Imports ^{2,3}	5,095	4,948	5,048	4,848	4,848	4,315	4,209
High Probability Additions ⁴	984	2,043	3,101	366	709	205	198
Total Planning Supply (MW)	61,957	62,762	63,578	63,744	64,453	64,125	64,217
Demand (revised June 2004):							
1-in-2 Summer Temperature Demand (Normal)	53,896	54,500	55,487	56,195	57,090	57,757	58,491
Projected Planning Reserve ^{4,5}	15.0%	15.2%	14.6%	13.4%	12.9%	11.0%	9.8%
Projected Planning Reserve with accelerated programs ⁶	16.5%	17.5%	17.7%	17.8%	17.7%	16.2%	15.3%

¹ Retirements on 2006 include 1,250 MW Generic Retirements. ² Net firm imports are based on 2003 estimate. ³ CEC recognizes that South Bay Units 1-4 will retire prior to summer 2009. We assume these plants will be replaced. No new firm imports are assumed so contract expirations reduce net firm imports over time with exception of 2006 where 100 MW export contract expires. This causes Net Firm Imports to increase 100 MW in 2006.

⁴ This planning reserve includes expected RPS renewable resource additions.

⁵ Planning reserve of 15% or greater is not maintained beginning in 2007 unless new resources are added.

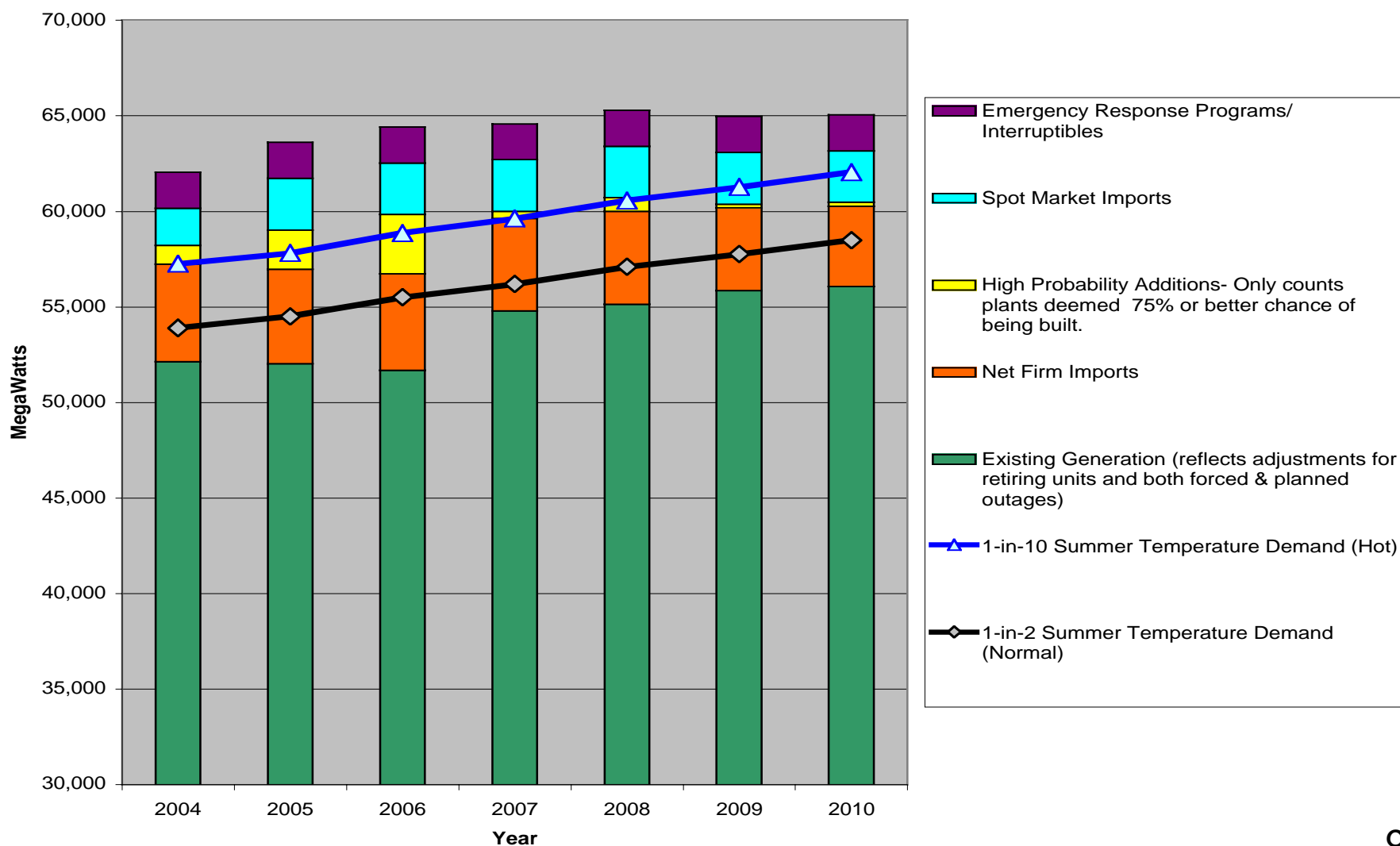
⁶ Includes potential capacity additions derived from emergency response/interruptibles, price responsive demand programs adopted by the CPUC, incremental new renewables from Energy Action Plan, and High DSM Peak Demand Reduction Scenario.

⁷ Of the 1,167 MW generation was mothballed (removed) in Nov 2003, 320 MW comes back online 15 July 2004; and additional 320 MW comes back online 15 Sept 2004.

Capacity from Plants placed on Cold Reserve Status ⁷	847	527	527	527	527	527	527
Emergency Response Programs/ Interruptibles	1,885	1,885	1,885	1,885	1,885	1,885	1,885

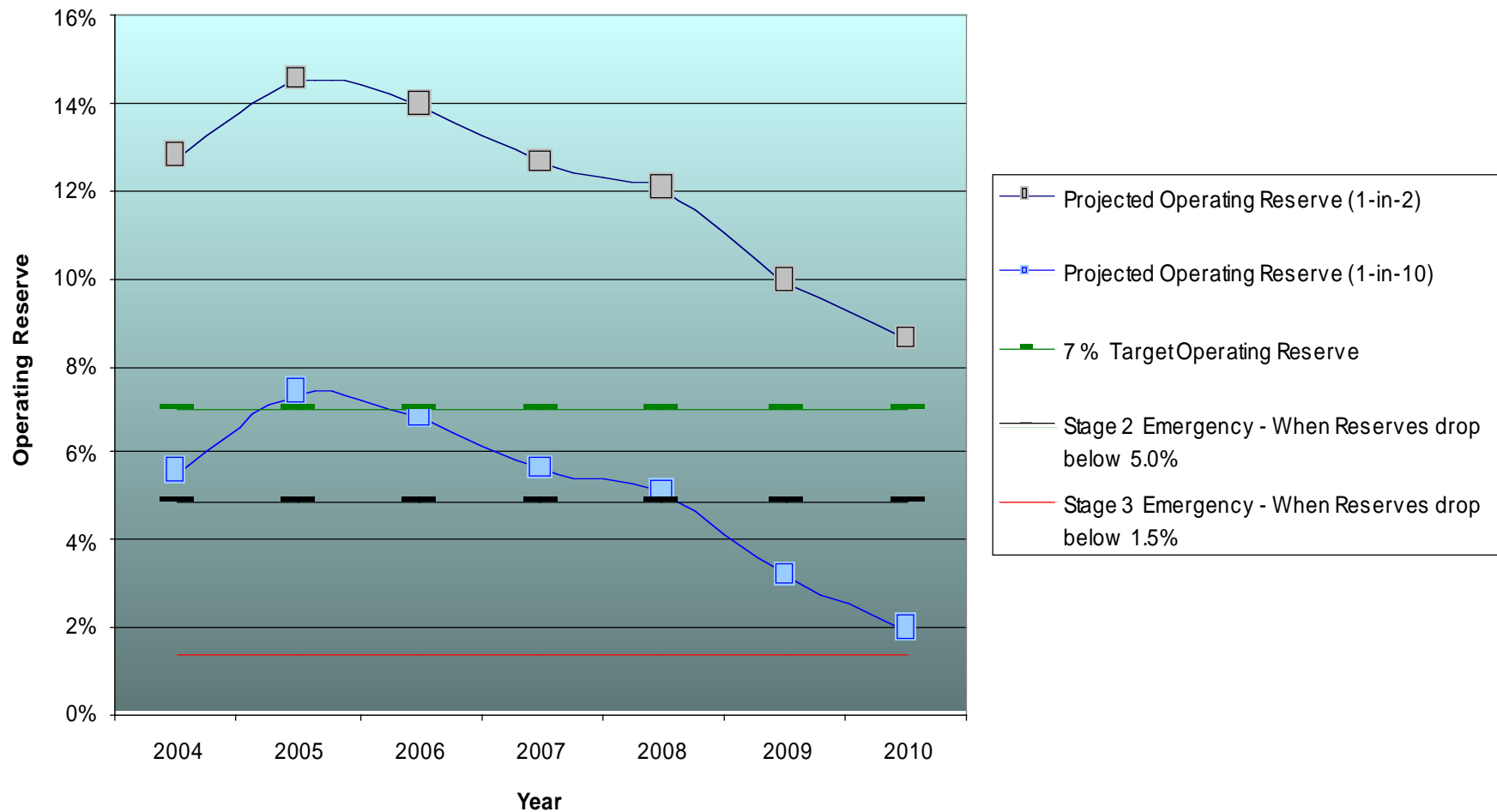


Supply/Demand Outlook 2004-2010





Projected Operating Reserves





Potential Energy Savings and Generation Additions from Demand Reduction, Demand Response, and Renewable Generation Program Goals

	2004	2005	2006	2007	2008	2009	2010
	<i>Megawatts</i>						
High DSM Scenario Peak Demand Reduction	1	145	414	712	983	1,205	1,395
Incremental New Renewables Goals of Energy Action Plan ¹	36	50	145	246	352	461	567
Demand response goals from D-03-06-032 ²	521	1,125	1,522	1,925	1,965	1,972	2,006
Total (MW)	558	1,320	2,081	2,883	3,300	3,638	3,968

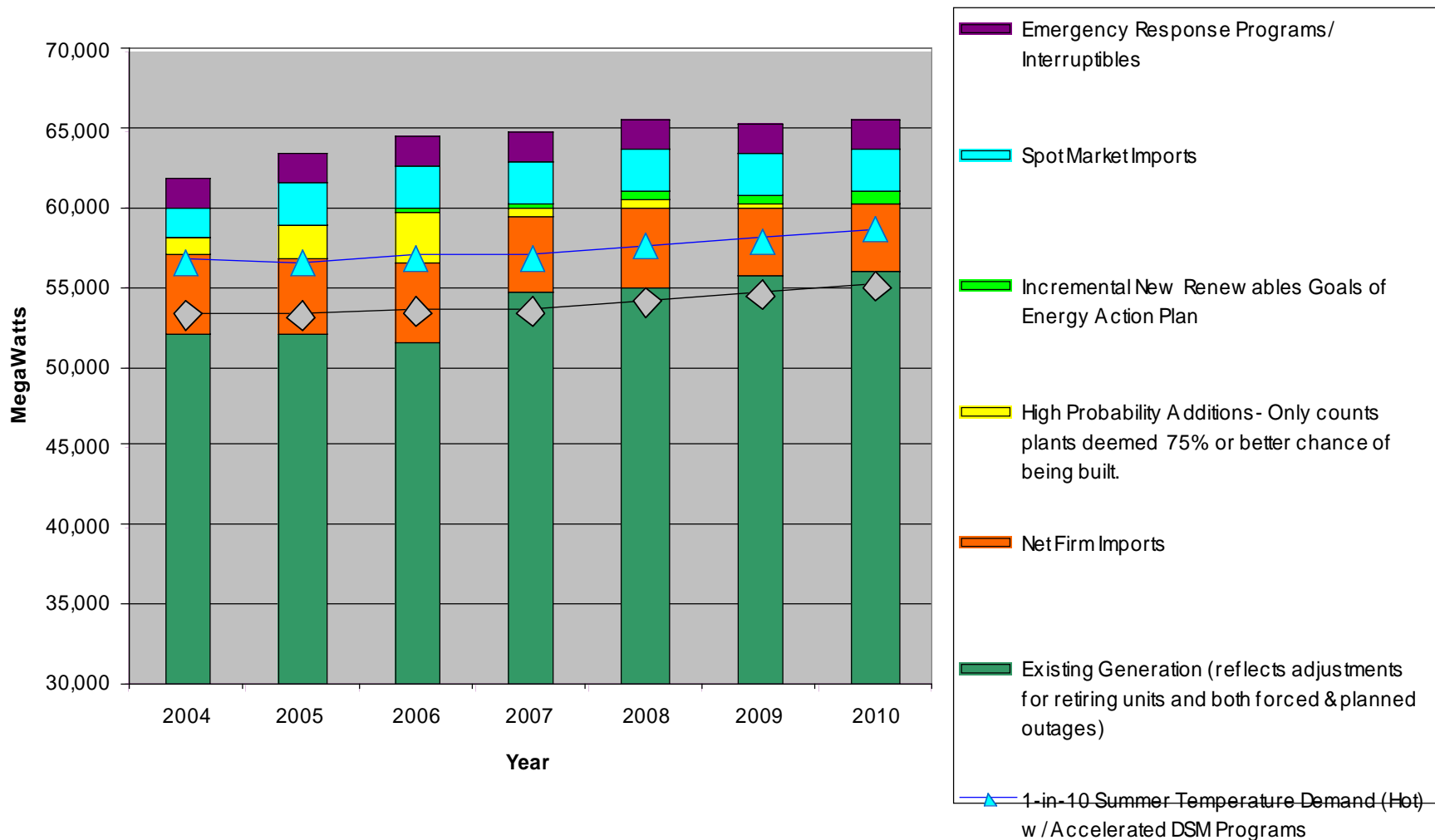
1. Dependable Capacity during Peak Hours

2. CPUC Interim Opinion In Phase 1 Addressing Demand Response Goals And Adopting Tariffs And Programs For Large Customers



Supply/Demand Outlook 2004-2010

with Accelerated Programs





Projected Operating Reserves with Accelerated Programs

